

What is claimed is:

1. A stabilizer system for a vehicle, comprising:
a proportional flow valve;
a first hydraulic cylinder and piston assembly mounted to a first vehicle support;
a second hydraulic cylinder and piston assembly mounted to a second vehicle support;
wherein the flow valve controls fluid flow to the first and second hydraulic cylinders, and wherein the proportional flow valve is actuated upon tilting from an untilted position, and wherein flow is increased to a piston of the first and second hydraulic cylinder assemblies in proportion to a tilt angle when the vehicle is tilted to a first side, and wherein flow is increased to a cylinder of the first and second hydraulic cylinder assemblies in proportion to a tilt angle when the vehicle is tilted to a second side.
2. A stabilizer system according to claim 1, wherein increasing flow to the cylinder of the first and second cylinder assemblies extends the piston and increasing flow to the piston of the first and second cylinder assemblies retracts the piston.
3. A stabilizer system according to claim 2, wherein extending the first hydraulic cylinder assembly tips the vehicle toward the second side and retracting the first hydraulic cylinder assembly tips the vehicle toward the first side.
4. A stabilizer system according to claim 3, wherein extending the second hydraulic cylinder assembly tips the vehicle toward the second side and retracting the second hydraulic cylinder assembly tips the vehicle toward the first side.
5. A stabilizer system according to claim 1, wherein the first vehicle support comprises an axle.
6. A stabilizer system according to claim 5, wherein the second vehicle support comprises a hitch coupled to a tractor.

7. A stabilizer system according to claim 6, wherein the hitch comprises a rotational coupling.
8. A stabilizer system according to claim 6, wherein the hitch comprises a gimbal.
9. A stabilizer system according to claim 7, wherein the hitch comprises a gimbal.
10. A stabilizer system according to claim 6, wherein the hitch comprises a rigid subframe mounted on the tractor.
11. A stabilizer system according to claim 1, wherein the flow valve comprises a pendulum valve.
12. A vehicle stabilizer system, comprising:
 - a towing vehicle with a sub-frame;
 - a towed vehicle;
 - a sub-frame mounted to the towing vehicle and attached to the harvester vehicle;
 - a coupling engaging the sub-frame and the harvester vehicle, wherein the coupling comprises a gimbal and a rotary faceplate.
13. A vehicle stabilizer system according to claim 12, further comprising:
 - a proportional flow valve;
 - a first hydraulic cylinder mounted to a vehicle axle;
 - a second hydraulic cylinder mounted to a rotary faceplate;wherein the flow valve controls fluid flow to the first and second hydraulic cylinders, and wherein the proportional flow valve is actuated upon tilting from an untilted position, and wherein flow is increased to a base end of the first hydraulic cylinder and the second hydraulic cylinder in proportion to a tilt angle when the vehicle is tilted to a first side, and wherein flow is increased a rod end of the first hydraulic cylinder

and the second hydraulic cylinder in proportion to a tilt angle when the vehicle is tilted to a second side.

14. A stabilizer system according to claim 13, wherein increasing flow to the base of the first and second cylinders extends the cylinder and increasing flow to the rod end of the first and second cylinders retracts the cylinder.

15. A stabilizer system according to claim 14, wherein extending the first hydraulic cylinder tips the vehicle toward the second side and retracting the first hydraulic cylinder tips the vehicle toward the first side.

16. A stabilizer system according to claim 15, wherein extending the second hydraulic cylinder tips the vehicle toward the second side and retracting the second hydraulic cylinder tips the vehicle toward the first side.

17. A method of stabilizing a vehicle, comprising:

providing a proportional valve, a first hydraulic cylinder assembly having a first cylinder and a first piston mounted to a first vehicle support, and a second hydraulic cylinder assembly having a second cylinder and a second piston mounted to a second vehicle support;

providing proportional flow through the flow valve to the first and second hydraulic cylinders, and wherein the proportional flow valve is actuated upon tilting from an untilted position, and wherein flow is increased to the first hydraulic cylinder and to the second hydraulic cylinder in proportion to a tilt angle when the vehicle is tilted to a first side, and wherein flow is increased to the first and second piston in proportion to a tilt angle when the vehicle is tilted to a second side.

18. A method according to claim 17, wherein increasing flow to the cylinder of the first and second cylinder assemblies extends the piston and increasing flow to the piston of the first and second cylinder assemblies retracts the piston.

19. A method according to claim 18, wherein extending the first hydraulic cylinder assembly tips the vehicle toward the second side and retracting the first hydraulic cylinder assembly tips the vehicle toward the first side, and wherein extending the second hydraulic cylinder assembly tips the vehicle toward the second side and retracting the second hydraulic cylinder assembly tips the vehicle toward the first side.

20. A harvester comprising:

- a frame;
- a harvesting mast movably mounted on the frame;
- a proportional flow valve;
- a first hydraulic cylinder and piston mounted between the frame and a first vehicle support;
- a second hydraulic cylinder and piston mounted between the frame and a second vehicle support;

wherein the flow valve controls fluid flow to the first and second hydraulic cylinders, and wherein the proportional flow valve is actuated upon tilting from an untilted position, and wherein flow is increased to the first hydraulic cylinder and to the second hydraulic cylinder in proportion to a tilt angle when the vehicle is tilted to a first side, and wherein flow is decreased to the first and second hydraulic cylinders in proportion to a tilt angle when the vehicle is tilted to a second side.

21. A harvester according to claim 20, wherein increasing flow to the cylinders and decreasing flow to the pistons extends the pistons, and wherein decreasing flow to the cylinders and increasing flow to the pistons retracts the pistons.

22. A harvester according to claim 21, wherein extending the first hydraulic cylinder piston tips the vehicle toward the second side and retracting the first hydraulic cylinder piston tips the vehicle toward the first side.

23. A harvester according to claim 22, wherein extending the second hydraulic cylinder piston tips the vehicle toward the second side and retracting the second hydraulic cylinder piston tips the vehicle toward the first side.
24. A harvester according to claim 20, wherein the first vehicle support comprises an axle.
25. A stabilizer system according to claim 24, wherein the second vehicle support comprises a hitch.
26. A harvester according to claim 25, wherein the hitch comprises a rotational coupling.
27. A harvester according to claim 25, wherein the hitch comprises a gimbal.
28. A harvester according to claim 20, wherein the flow valve comprises a pendulum valve.
29. A harvester system, comprising:
a towing vehicle with a sub-frame;
a towed harvester vehicle including a frame and a harvesting mast movably mounted on the frame;
a sub-frame mounted to the towing vehicle and attached to the harvester vehicle;
a coupling engaging the sub-frame and the harvester vehicle, wherein the coupling comprises a gimbal and a rotary faceplate.
30. A harvester system according to claim 29, further comprising:
a proportional flow valve;
a first hydraulic cylinder assembly mounted to a vehicle axle;
a second hydraulic cylinder assembly mounted to the coupling;

wherein the flow valve controls fluid flow to the first and second hydraulic cylinder assemblies, and wherein the proportional flow valve is actuated upon tilting from an untilted position, and wherein flow is increased to a cylinder end of the first hydraulic cylinder assembly and the second hydraulic cylinder assembly in proportion to a tilt angle when the vehicle is tilted to a first side, and wherein flow is increased to a piston end of the first hydraulic cylinder assembly and the second hydraulic cylinder assembly in proportion to a tilt angle when the vehicle is tilted to a second side.

31. A harvester system according to claim 30, wherein increasing flow to the cylinder ends of the first and second cylinders extends the cylinder assemblies, and wherein decreasing flow to the cylinder end of the first and second cylinders retracts the cylinder assemblies.

32. A harvester system according to claim 31, wherein extending the first hydraulic cylinder tips the vehicle toward the second side and retracting the first hydraulic cylinder tips the vehicle toward the first side.

33. A harvester system according to claim 32, wherein extending the second hydraulic cylinder tips the vehicle toward the second side and retracting the second hydraulic cylinder tips the vehicle toward the first side.

34. A stabilizer system according to claim 1, further comprising an overload relief assembly to vent fluid pressure due to the first vehicle abruptly engaging uneven terrain before a change in harvester level position occurs from the proportional valve adjusting cylinder position.

35. A stabilizer system according to claim 1, further comprising an overload relief assembly to vent fluid pressure due to the second vehicle abruptly engaging uneven terrain before a change in harvester level position occurs from the proportional valve adjusting cylinder position.